

ATTITUDES TOWARDS THE INNOVATION OF  
COMPUTER ASSISTED LANGUAGE INSTRUCTION  
AT TURKISH UNIVERSITY

A THESIS

Submitted to the Faculty of Letters  
and the Institute of Economics and Social Sciences  
of Bilkent University  
in Partial Fulfillment of the Requirements  
for the Degree of A Master of arts in  
the Teaching of English As A Foreign Language

BY

FATMA ÖZMEN  
AUGUST, 1990

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tarafından bağlanmıştır.

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MA THESIS EXAMINATION RESULT FORM

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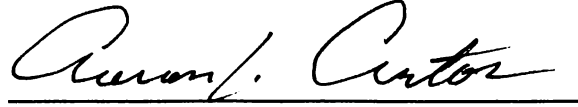
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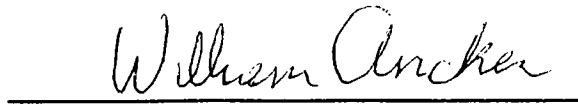
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We certify that we have read this thesis and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts.



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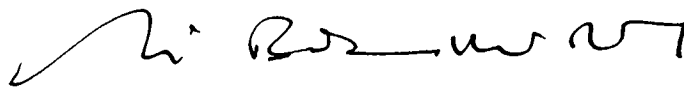


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## **CHAPTER ONE**

### **1. INTRODUCTION**

The modern approaches to foreign language teaching aim to promote the meaningful interaction and information exchange between the learners themselves and between the learners and teachers. Teachers try to use the most adequate methods and instruments to facilitate and to improve the learning process. Because of their interactive capabilities, computers are one of the most attractive, recently invented teaching aids that are becoming widely used in foreign language education.

Computers are coming into frequent use in Turkey and there has been a development using computers in computer assisted instruction (CAI). Every university and most of the secondary schools in Turkey today have computer labs set up for science and math programs. Although the amount of attention paid to computer assisted language learning (CALL) is as yet quite small, there have been efforts to start CALL in schools and universities. The Project of Computer Assisted Education begun in 1990 by the Ministry of National Education is an example to

such efforts.

With the increasing use of computers in education, people's attitudes and approaches towards using computers and learning how to use them become important. Many people are skeptical about the value of computer assisted instruction while many others expect great benefits of the use of computers in education.

### 1.1 Purpose of the study

This study concerns itself with attitudes towards computer use in EFL at Turkish universities. Are people enthusiastic or apprehensive in their approach? What are the differences between attitudes that the students display as users and non-users of computers? What kind of attitudes do the teachers have? Is there a great discrepancy between the approaches of students and teachers? The main aim of this thesis is to find the answers to such questions.

Since this study is limited to the attitude analysis of the university students, tutors, and administrators, the

techniques and applications of computer assisted instruction are not points of concern.

## 1.2 Outline of the thesis

The literature review in Chapter Two briefly describes the computer, the use of computers in education, and examines some general discussions of different attitudes towards computer use.

Chapter Three describes the methodology which includes; (a) a questionnaire study, and (b) an interview study. It also describes the analyses of questionnaire responses of students and teachers as users and non-users of computers, and the responses of administrators obtained through interviews. Findings are described in statistical and qualitative terms and interpreted so as to clarify the attitudes of the groups.

In the light of the findings, some conclusions are drawn in the Fourt Chapter concerning the attitudes of students, teachers, and administrators towards the use of computers in education, and some recommendations are given.

## CHAPTER TWO

### 2. LITERATURE REVIEW

Many books, pamphlets, and articles have been written and are still being written about the use and effects of computers in education. Knowledge about computers and their use according to the needs of individuals has generally been called *computer literacy*. This chapter aims to provide some of the specific computer literacy relevant to using computers in learning and teaching language and to review some of the literature on attitudes towards computer use. The sections concerned with computer literacy focus on five major subjects: (1) the computer (with its subdivisions of hardware, hardware configuration, and software); (2) a brief history of computer assisted language learning (CALL); (3) applications in (CALL) (with the subdivisions such as tutor, tutee, tool applications); (4) advantages and limitations of CALL; and, (5) the future of CALL.

#### 2.1 THE COMPUTER

Computers may be defined as electronic machines which process information according to given ranges of instructions.



Goldenberg says that "Computers may have a particularly great impact on education because they are powerful information technology. Information is the substance of knowledge, and learning to manipulate knowledge is much of what education is about. Computers are information manipulators, par excellence." (1984; 19). The operation of computers entails two major elements called, in general terms: *hardware* -or physical components; and *software* -or systems of instructions by which computers work.

#### 2.1.1 Hardware

Hardware refers to the the visual and tangible components of the computer and to the computer itself. The keyboard, the screen, the printer, and disc drives are all various pieces of computer that are called hardware. According to the design and memory capacity, computers are classified in three types: the *mainframe*, *mini*, and *microcomputers*. Mainframe computers are the largest type of computers and have powerful memory capacities. They are used especially for governmental, military and scientific purposes. The middle sized computers are called minicomputers.

Although they are smaller and have less memory capacity, and fewer potentials than mainframes, they too are capable of many complex operations. Minicomputers are preferred in banks, universities, research centers and similar settings. Micro computers, or "micros", are the smallest type. However, they have the least memory capacity and the slowest operation system among the three types of computers. They offer some advantages such as portability, having relatively low prices and simple operation systems that make them be widely used (Merrill et al.1986;6). Because of these characteristics, the microcomputers are sometimes called desktop, personal or home computers.

Irrespective of their type or size, all computers are conceived of as consisting of at least four components (Merrill et al.1986; 2). These are the *input devices*, the *central processing unit (CPU)*, the *internal memory*, and *output devices*. The input devices are used to get the information or directions into the computer. Keyboards, the disk drives, and punched card readers are examples of input devices. The computer screen which is normally an output device, may be used as an input device when a

touch-sensitive panel is laid on the screen. Lightpens, joysticks, and paddles are also used as input devices. It is possible to write or draw on the screen by using them. In that case the keyboard may be eliminated or supplemented.

The central processing unit (CPU) and the internal memory are located at the same physical unit. The central processing unit receives and processes the information. In a microcomputer the central processing unit is called microprocessor. The internal memory can store information. There are two main types of internal memory. These are Random Access Memory (RAM) and Read Only Memory (ROM). The power of the computers comes from their ability to process RAM. RAM is not a permanent memory; it is altered and when the power switched off; it is lost. It can only be stored on disks or diskettes. ROM may not be changed or rewritten. It is fixed and permanent and when the power is turned off it is not lost (Merrill et al. 1986;3).

The output devices make it possible to get the processed information out of the computer. This processed information first is seen on the computer screen which is an output device

similar to a television screen. Then the obtained information either is printed on another output device, the printer, or it is stored on a disk or diskette to be used later. Disk drives are used as both input and output devices (Merrill et al.1986; 5). Disks and diskettes are like the records played on a record player and are called *floppy disks* or *diskettes*. There is another type of disk covered with a metal protector and used to store more information. It is called a *hard disk*. Hard disks and floppy disks or diskettes are the auxiliary storage devices in addition to the main memory.

#### 2.1.1.1 Hardware configuration

Ahmad et al. discuss the hardware in three principal configurations; the *stand alone*, *multi-user*, and *networked* system. The stand alone system refers to the personal computers. One computer serves one user. The multi-user system requires at least a mini computer, or a mainframe on which several users can work. In the multi-user system, several concurrent users who have their own terminals ( a screen and a keyboard ) use a computer connected to their terminals sharing the time devoted to the operations. For this reason..it is also called the

time-sharing system. Ahmad et al. say that "The time-sharing mechanism allocates each user a fraction of each second, and if the users's instructions cannot be completed in that time, it returns to complete the job on the next cycle of time-sharing." (1985;19). Computers can also be linked to communicate with each other or to acquire information from the other computers to which they are connected.

### 2.1.2 Software

Computers must be programmed in order for them to function. When a computer is instructed or programmed properly it performs the instructions very rapidly and accurately. The sequence of various types of programs that tell the computer what to do are called software. According to the categorizing of Abdulaziz et al. there are three types of software that operate the computer. These are the *operating system*, the *compilers* ( or translators) and the *application programs*. Operating system programs are the supervisory programs that control and coordinate all the operations. An operating system program in a computer receives the user's instructions and provides communication with the user. A compiler is the interpreter of

the system that transforms the high level languages like Cobol or Fortran to the machine language which is called low-level language. The application programs are written by the users with a special purpose in a high level language (Abdulaziz et al.1985;10).

If a software is designed specifically for teaching purposes, it is called *courseware* (Ahmad et al. 1985;25). Writing computer programs requires time, skill, effort, expertise, and interest. Most of the teachers may be expected to find this a time consuming and frustrating job. However, *authoring systems* and *ready-made packages* are available. Ready-made packages, as the name implies, are already prepared programs. The only thing that one needs is to put the program into the machine and make it run (Kenning and Kenning 1983;10). The authoring systems are provided by specialists to enable educators to work with a simpler programming process and to present their lessons without requiring much computer knowledge.

## 2.2 A SHORT GLANCE AT THE HISTORY OF COMPUTER ASSISTED INSTRUCTION (CAI)

When the history of computer assisted instruction is examined it is seen that the evolution of the computers, especially the invent of microcomputers, has had important roles in the development of CAI. Therefore, it is beneficial to deal with the history of CAI as the periods before and after the invention of microcomputers.

With the increasing use of computers in education some educational terms beside CAI such as CALL (Computer Assisted Language Learning) or in general CAL (Computer Assisted Learning), CALT (Computer Assisted Language Teaching), and CMI (Computer Managed Instruction) have been often used through the history of computer assisted instruction. It will be beneficial also to mention first of these terms for the sake of clarification.

Coburn et al. note that the term CAI has been using differently by those concerned with educational computing. Some of these people consider CAI as the educational use of the 'first generation of computing materials that emerged in the sixties', others apply it to 'any educational use of computers'. Taking into



consideration these two views, Coburn et al. define CAI as "Instructional computing applications involving conventional educational methods used in pursuit of traditional educational goals. In this context; the computer is an electronic aid to teachers and CAI programs are the teachers' instructional materials, in which are embedded their teaching methods" (1985;45).

While the term CALL (or in general CAL) focuses on the learning aspect of computer assisted education, CALT is concerned with the teaching of language. Ahmad et al. refer to the work related to language teaching in U.S.A and Great Britain and note that "CAI is a term used widely in North America, whereas CAL is the usual term in Britain" (1985; 28 ).

The term CMI ( Computer Managed Instruction ) refers to the managerial applications of computers in instruction. Coburn et al. mention that "While computerized instructional/learning tools are relatively new to education, computerized educational management tools are not. Schools have used the data processing capabilities of computers for years for districtwide

administrative purposes" (1985; 59 ).

The first generation of computers were vacuum tube-based and they required much space, time, and effort to operate them. The invention of transistors reduced the size of computers while increasing their speed. Therefore computers became more widely used in education in the sixties and time sharing systems became a standard for interacting with computer and new languages were developed (White and Hubbard,1988; 10).

According to Nievergelt et al. the use of computers in education started to get attention in the late 1950s in connection with CAI and was influenced by the programmed instruction movement in the sixties (1986; 3).

Coburn et al. note that in the sixties "With much fanfare an 'educational revolution' was declared, although its actual realization always seemed just around the corner" (1984; 233).

Also, despite several millions of dollars spent on some pilot projects, CAI did not become efficient and popular. A number of reasons are given by Coburn et al. for such failure.

- \*The cost of the hardware and software was too high.
- \*Teachers were not eager to use the computers in education. They feared the loss of their jobs.
- \*There was no efficient organization to introduce the computer materials into the schools and to train the teachers.
- \*The effectiveness of CAI was mostly exaggerated.
- \*Since schools are conservative institutions they did not want to adopt the new methods without being sure of their effectiveness (1984; 234).

One of the first projects was prepared for the teaching of German at the State University of New York at Stony Brook. It was available for listening comprehension, oral practice, dictation and translation exercises, and favorable results were obtained in comparison with the traditional instruction in these domains (Underwood 1984; 41).

Ahmad et al. note that many remarkable projects on CALL were conducted during the late 1960s and early 1970s (1985; 28). In the U.S.A. , examples of such projects were at Stanford, Illinois, and Dartmouth universities, and in Britain, the Alford project is

another example. The results were encouraging. The students who used the computer based-material scored significantly better than the ones taught conventionally. At the University of Illinois, the Programmed Logic for Automated Teaching Operations (PLATO) system was designed. It is a totally instructional program and is available for teaching many languages. Although during the seventies, the PLATO system made considerable progress, it is a rather expensive program designed for mainframe computers. The Dartmouth college project was designed to allow one more academic institution to provide a time sharing facility to the users. In Britain, the Scientific Language Project in the University of Essex was designed to provide computer assistance in reading the specialized texts in Russian (Ahmad et al. 1985;28).

During the seventies many research and development projects addressed the use of computers in a variety of settings. In U.S.A., Patrick Suppes' and Seymour Papert's works were the notable ones. While Patrick Suppes and his colleagues directed their attention to the specific learner groups as handicapped, gifted students, Saymour Papert's work was centered on the use of computer and computer programming to create new types of

learning environment for the children (Coburn et al. 1985; 234,239).

The works related to the Computer literacy and computer programming were the focus of attention during the seventies. Arthur Luehrman is known widely for his provoking article entitled "Should the Computer Teach the Students or Vice-Versa?" in which he emphasized the importance of computer programming in language learning (Coburn et al. 1985; 238).

Nievergelt et al. say:

In the early 1970s the learning research group at the Xerox Alto Research Center began developing *Smalltalk*, a system designed to provide a powerful programming environment for 'children of all ages'. It includes tools for painting, drawing, animation, music synthesis, storage and retrieval of document information, and other activities. Its aim is to show what today's and tomorrow's computer technology can contribute toward the realization of a powerful environment for problem-solving in the style of Papert's Logo project. (1986; 7)

With the invention of micro-single silicon chip, microcomputers were developed and gained wide use during the eighties. Coburn et al. point out that "The relatively low cost, portability, reliability

and 'friendliness' of microcomputer systems have overcome many of the objections that were fatal to educational computing in the sixties and seventies"(1985; 241). Further, Coburn et al. give some additional reasons that promoted the use of computers in education. The impact of the society on the schools, the intellectual challenge and sense of innovation computers present and their potential for making dramatic progress in certain areas, the teachers' learning to deal with computer-based instruction for their own classes, and the emergence of computer related educational magazines and periodicals may be cited as some of the additional reasons.

Parallel to the increasing use of microcomputers in education, there is a variety of software on the market. But unfortunately, many of them are not adequate for a satisfactory CALL practice.

Underwood points out:

It has quickly become clear that good, intelligent software is neither simple to write nor easy to find. Commercially available programs are usually written by computer experts with no training in language pedagogy, whereas the efforts of language teachers--although perhaps pedagogically sound--are usually woefully unsophisticated uses of computer (1981, 43).

The advances in microcomputer technology started work on 'artificial intelligence' towards the end of the eighties. According to the goals of artificial intelligence, the computers will be able to reproduce the human intelligence and communicate easily with the users in natural language. But while such work is continuing there is still a dearth of programs which will meet learners' needs and expectations.

## 2.3 APPLICATIONS OF CALL

There are many ways to use computers in the classroom. Merrill et al. classify the educational applications of computers in three major categories which were originally proposed by Tailor. These are tutor, tutee, and tool applications ( 1986; 8 ).

### 2.3.1 Tutor Applications

In tutor applications the computer is programmed to perform a teaching role. The computer presents some information and asks questions relevant to it. According to the learner's responses the computer decides what to do and provides feedback. It either provides more information or asks further questions. Drills and practice, tutorials, games, and simulations are some



application forms that are cited in tutor applications.

In drills and practice applications the computer can be programmed so that it not only presents the exercises but according to the responses of the students can provide the appropriate feedback. In this way, it helps students to memorize the correct answer to some stimulus.

Simulations are the representatives by which students may have the opportunity of seeing the appearance of the real model or experiencing the real event without taking risks and consuming time and effort.

Games are activities that attract the students' attention and keep them motivated. They may vary according to the level, age, number of students, and subject matter.

### 2.3.2 Tutee Applications

These applications refer to the instructions that the learner directs to the computer. In this use, the computer is a learner and it is taught what to do by means of the computer programs.

According to the instructions the computer performs some certain tasks. It may be either a problem solving activity or drawing a graphics design, or any other thing.

### 2.3.3 Tool Applications

In tool applications computer can be used as an instructional tool like a blackboard, typewriter, pencil, piano, or calculator. Using word processing programs or authoring systems, teachers and learners get benefits from computers. The teachers can prepare their instructional plans, maintain test results, efficiently follow student performance and progress, and keep accurate records and files. The students also can keep records and notes, type and print their assignments, and use electronic data processing programs for complex computations.

## 2.4 ADVANTAGES AND LIMITATIONS OF CALL

### 2.4.1 Advantages

Ahmad et al. specify three advantages in the educational use of computers: "Those which are part of its inherent nature, those which benefit the teacher, and those which benefit the learner" (1985; 4). The inherent advantages of the computer refer to its

capabilities that distinguish it from the other technological aids such as tape recorders, film projectors, and videos. "It can handle a much wider range of activities, and much more powerfully than other technological aids. More than just this, it can offer interactive learning" (Ahmad et al. 1985; 4 ). For the teachers and students computers offer many advantages especially because of their versatility in manipulating different kinds of materials. They can provide information "in the form of text, graphics, audio and video". They can handle "simulated dialogues, question and answer routines". The teachers can benefit from its facilities in managerial field keeping records, adding new parts to the course material or eliminating some of them. The computers make many educational courses accessible to the students whenever they want. According to the needs and pace of the students the computers adjust the time and provide the feedback. The student and teachers also have the opportunity of receiving information at a distance by means of computers (Ahmat et al. 1885; 5). The views of some other specialists about the advantages of computers may be cited as following:

Contrasting the computer with the language laboratory, Wyatt

points out that an important advantage of computers over the language laboratory is its interactive capability (1984; 16 ). He notes that standard tape equipment can not respond to the student's questions, and cannot judge whether student responses are right or wrong. The computer can act as a tutor. For instance, it may offer the content in words ( or in speech,too, if the computer has a speech synthesis device ) integrated with the relevant pictures or graphs, which can be changed in size, colour, and shape. It can ask questions and conduct a two-way communication. Assessing answers given by the student, the computer provides the necessary feedback that will lead the learner to the correct solution and comprehension.

Some advantages for the teacher are discussed by Kenning and Kenning who point out that the computer offers teachers the opportunity to make better use of their time and expertise. The computers can handle tedious and time consuming paperwork and allow the teacher more time for creative teaching activities. Using a wordprocessing program the teacher can prepare and utilize lesson plans, instructional materials, tests, test results, student attendance sheets, and school reports

efficiently and accurately. Editorial or substantive changes in stored instructional documents are possible. The teachers can make multiple copies of the written material (1983; 3).

For the benefits computers offer to the students Hope et al. state:

The computer allows one-to-one interaction. The amount of control over events is shared fairly equally between student and machine: The computer asks the questions and has the answers; the student decides when to turn it on and off, which material to work on, and how fast to go. Students rarely have such power over their teachers. Teachers rarely seem as patient. (1984; 3).

#### 2.4.2 Limitations

We turn now to the drawbacks and limitations of CAI. Ahmad, et al. point out that some limitations stem from the nature of the computer itself, while others result from the present state of the art in CALL.

With the rapid increase of microcomputers many individuals began to use the computers at home, school, and offices. As a consequence, the need for computer programs has been increasing.

But frequently a program prepared on a particular type of computer does not work on any other type of computer.

Ahmad, et al. comment:

Computer programs are seldom 'portable'. Unless the computer is the same as the one on which the materials were produced, they will probably not run without modification. Such modifications may be prohibitively time-consuming, if not impossible. This situation is now being ameliorated with the appearance of more portable programs, but the underlying problem of portability is far from solved (1985; 7).

Coburn et al mention one of the major problems saying that although the price of personal computers has decreased, its cost is still prohibitive for many potential users. Software prices are also still very high and furthermore good quality software is not always available ( 1985; 242).

For the development of CALL programs Dunn and Morgan comment on the quantity and quality of available software as follows:

The situation is changing rapidly now, the quantity of educational software available is quite considerable and seems to be increasing steadily. However, this new quantity brings its own difficulties, the most obvious

of which is the problem of deciding which programs to buy and how to use them. Unlike books it is not possible, or at least it is not very easy, to browse through software, and the ongoing difficulties about copywrite and piracy mean that producers and publishers are reluctant to allow trials. But even if this was solved there remains the more difficult problem of quality, which as suggested above arises from the newness of the medium. What is good software? How can it be recognized? How can its production be encouraged? And even more crucial, what criteria can we use in this process of qualitative distinction? (1987; 98).

A very fundamental problem is encountered in attempting to develop communicatively oriented computer assisted language instruction. In CAI the flow of communication is determined by the predictions of the program writer while in natural dialogue and conversation it is almost impossible to predict what will be relevant communication under any given circumstance. Higgins and Johns illustrate the nature and significance of communicative competence with a pair of sentences used in an ordinary speech (1984; 13);

"A: Where the hell have you been?        B: It started to rain."

The use of these sentences shows us that the first speaker wants to know the reason for the lateness of the second speaker, while the second speaker wants to say that the rain is the reason. The



produce and comprehension of such speech acts are only possible within the human experience and keen intelligence and are not met within the power of the kinds of computers and programs used in CALL or CAI in general, but are not even possible using the most sophisticated forms of computerized 'artificial intelligence'. Ahmad et al. point out:

The computer, in short, can not effectively conduct an 'open-ended' dialogue with the student. It has neither the vocabulary, nor the ability, to understand the enormous range of utterances possible in any human language. It can not handle ambiguity with any confidence. It can 'learn' only in a restricted sense. All this means that the computer can be used only for certain types of teaching, and only with certain types of material if used in a tutorial mode ( 1985; 8 ).

## 2.5 SOME ASSUMPTIONS ABOUT THE FUTURE OF CAI

Different viewpoints exist about the future of computers in education. Some educators and specialists are optimistic about the revolutionary potential of computers while others are skeptical and regard the optimistic view as naive.

One of the skeptical views considers the use of computers in education as another fad that will eventually pass. Coburn et al. say that although a number of pervasive technological

innovations such as films, televisions, tape recorders, and telephones have had "profound influences on all of our social institutions", none of them have altered education despite the expectations. According to some people the influence of computers on education may follow the same path and "Once the present wave of interest in educational computing has passed and computers have become generally accepted as part of the cultural scenery, we may find that they have made little real change in our educational institutions" (1985; 247).

White and Hubbard draw attention to another point, namely the concept of techno-dependence, and say "People are genuinely concerned that society is becoming far too dependent on technology and that we are building a new world of high technology on a hill of sand" (1988;46).

Another view is focused on the notion that the wider use of computers in language learning will reduce the interaction between the student and the teacher. Dunn and Morgan say about people with such opinions:

They would argue that the incidence of this is threatened

by the one-to-one impersonality of the machine and of computer-based learning systems. Children need to be constantly in touch with other humans, especially teachers, so that they learn communication skills-not just the direct and obvious ones, but the hidden or less overt forms which are often at least as important: the 'wink and nod' of non-verbal communication; the need to learn how to use and interpret gesture, the changing pitch and volume of voice, the expression in another's eyes; and how to read intention, meaning and response in facial expression. These they argue are not open to question as of crucial importance in education, and it is necessary to make sure that any system of computer-based education does not exclude them (1987;151).

Krashen in a speech (1985) entitled "The Power of Reading" calls computers as the wonderfull machines in wordprocessing but sharply criticizes the use of computers in language learning. He accepts computer as the worst thing that has ever happened to language learning. He insists that computers will do nothing effective for language learning. And he says that instead of so much effort and so much money spent on computers to improve the learning possibilities of the students, the schools must provide better libraries with several useful books and get the children interested in them.

On the other hand some futurists envision that computers will

change everything from lifestyle, family structure, and work habits to education. In relation to language learning they predict that students would no longer go to school, instead would learn through interactive computer systems, linked to other people and information sources and schools would become irrelevant. As people master new computer-based skills, some problems related to some basic skills such as reading, writing and arithmetic would end since they would be accepted as unnecessary in the form we know them today. Computers would be used as an antidote to many of the ill effects of television as the use of computers enhance the creative, active and individualized learning (Coburn et al. 1985; 6).

White and Hubbard inform us that the Japanese are trying to produce truly intelligent machines as the fifth generation of computers and quote Fiegenbaum and McCorduck that "Intelligent computers will be able to converse with humans in natural (conversational) language and understand speech and pictures. These will be computers that can learn, associate, make inferences, make decisions, and otherwise behave in ways we have always considered the exclusive province of human reason"

(1988; 49). White and Hubbard also assume an environment in which everybody will take responsibility, and authority will change from "they" to "we" (1988; 182). In such an environment, teachers will play even more vital roles and the "traditional place of the teacher at the front of the classroom is likely to diminish. In fact, teachers will probably spend most of their time guiding, counseling, and leading instructional teams rather than lecturing to a room full of students" (1988; 185).

As seen from the remarks of specialists there is obvious confusion about the future roles of computers on education. The developing technology and the needs and expectations of the people will be key points about the role of computers on education in the future. Only time will reveal the results.

## **CHAPTER THREE**

### **3. METHODOLOGY AND ANALYSIS OF THE FINDINGS OBTAINED FROM QUESTIONNAIRES AND INTERVIEWS**

This chapter includes the methodology used in the thesis and the analysis of the results obtained from the questionnaires and interviews exploring the attitudes of students, teachers and administrators towards the use of computers in education.

#### **3.1 METHODOLOGY**

There is a Turkish proverb which says "To start is one half of the completion." One of the most difficult steps in this research was the specification of the problem area of CALL to be studied. The final decision was to focus on the attitudes towards computers of groups of students, teachers, and administrators, and to measure their attitudes by questionnaires and interviews.

As a result of intensive technological advancement, there are some efforts to start computer assisted instruction in Turkey. However, the literature reviewed indicates that in countries

where CAI has been applied, both favorable and unfavorable attitudes have been expressed towards the use of computers in education. To explore the attitudes of the groups two process have been executed: development of questionnaires and interviews, and data processing and item analysis.

### 3.1.1 Development of questionnaires and interviews.

The main questions raised in this thesis are: What are the feelings and attitudes of the three major groups -the students, the teachers, and the administrators- towards CAI in the educational field in Turkey? Will CAI be welcome or will it be rejected? How do people perceive the various functions of CAI? Do they or don't they find them useful? The questionnaires and interviews were prepared to find out the answers to such questions.

#### 3.1.1.1 Questionnaires

Questionnaires were administered to randomly chosen students and teachers from different departments and different universities inside and outside of Ankara to have representation from different regions in Turkey. Since all the students in the

samples had to learn a foreign language in their respective universities, they could answer the questions related to the computerized language learning regardless of the department or program they were in. In Ankara, a total of 70 students and teachers at Bilkent, Gazi, Ankara and Middle East Technical universities answered the questionnaires. Outside of Ankara, a total of 84 students and teachers at Erciyes, Çukurova, and Fırat Universities answered the questionnaires.

Two types of questionnaires were prepared. One for the students and teachers who had never used computers before, and the other for the ones who were users of computers. Appendix A exhibits a copy of each questionnaire. The questions were written in Turkish to assure that respondents whose English was not adequate could answer them. The questionnaire prepared for the teachers and students who had not used computer before, referred to their views and feelings about the use of computers in education since they had no prior experience with computers. The questions were generally in multiple choice or Likert style. The questionnaires prepared for users of computers included some questions about general views and attitudes and some



specific questions about their use of the computers. Questions were in multiple-choice, Likert, and yes/no types.

The questionnaires that were prepared initially, were tried out on some students and teachers and were discussed with educators from Bilkent and METU. They were then revised to obtain the final forms.

A total of 154 individuals responded to the questionnaires. As seen in table 1, 116 of them were students and 38 were teachers. Fifty eight of the student respondents were computer users and the other fifty eight had not previously used computers. Nineteen teachers were familiar with computers in education and the other nineteen were not.

Table 1. Numbers of students and teachers responding to questionnaires as users and non-users of computers.

	students	teachers	total
non-users:	58	19	77
users :	58	19	77
total	116	38	154

### 3.1.1.2 Interviews.

Interviews are better geared to open-ended questions and are useful with small numbers of people. With administrators from different institutions, the interview method seemed more appropriate and relevant to obtaining responses. The number of the questions in the interviews varied from ten to fourteen according to the occupation and flow of conversation. The questions were prepared to get the present opinions and the future intentions as well as assumptions of the administrators about CALL in Turkey. Two administrators from Bilkent University, one from METU, one from a private school, and one from the Ministry of National Education constituted the sample for the interviews. Since these administrators were educators at the same time, they were aware of some educational problems and of the needs and expectations of prospective recipients of CALL in Turkey. They answered the questions cooperatively and easily. Two of the interviews were made in English and the others in Turkish. The ones made in Turkish were translated into English. Appendix D exhibits a copy of the questions asked in the interviews.

### 3.1.2 Data processing and item analysis.

Using a computer program called Microsta, frequency distributions were obtained in numbers and percentages for each item in the questionnaires. Appendix B exhibits the examples of printout of frequency distributions for students and teachers. An item analysis was performed using the percentages in the top and bottom and sometimes in the middle of the frequency distributions. The results of the questionnaires and interviews are analyzed in the following sections.

## 3.2 ANALYSIS OF THE FINDINGS OBTAINED FROM QUESTIONNAIRES AND INTERVIEWS

The questionnaire results were analyzed taking into consideration the students as non-users and users of computers, and the teachers as non-users and user of the computers. The interview analysis did not include the users and non-users distinction.

### 3.2.1 The analysis of questionnaire findings for students and teachers as non-users and users of computers.

As seen from the copy of 'Questionnaire A' the students and teachers who did not use computers were asked to respond to 27

statements in four groups. 'Questionnaire B' which was prepared for the students and teachers who used computers indicates 44 statements numbered from 28 to 72 in seven groups of questions. Appendix C presents the tables indicating the selected items together with the numbers and percentages of the students and teachers as users and non-users. The percentages are based on the number of individuals taking the questionnaires. Tables 2-5 present the four groups of questions and the specified statements selected by the student non-users. Tables 6-12 present seven questions and possible statements relevant to them together with the number and percentages of the student users. In the same way, tables 13-16 reveal the frequency distributions for the teacher non-users while tables 17-23 reveal the frequency distributions for teacher users.

The comparisons and contrasts of frequency distributions for certain questions reveal the similarities and differences; (1) between students ( 1.a for non-users, 1.b for users ) and (2) between teachers ( 2.a for non-users, and 2.b for users ).

1.a When asked why they didn't use computers (table 2.), 75.86 % of the students, the highest rate of frequency, responded that they couldn't find time to learn. "They are expensive" was the second most selected item (34.48 %) . The percentages of responses to other items were considerably less than the most selected ones and the significant point was that none of the students selected the reason "I don't like them". 2.a For the same question similarly 68.42% of the non-user teachers stated that they did not find time to learn (table 13). But contrary to the students, 52.63% of the non-user teachers stated that they did not like to use the computer.. And 47.37% said they were expensive; while 21.05% stating other reasons, 15.79% said it was difficult to learn; only one teacher stated that she didn't need to; and there was no one indicating the computers as uninteresting devices.

1.a In response to the question about what were the benefits of using computers (Table 3, Appendix C.1.1.a), 70.69% of the student non-users stated that computers gave the opportunity of making better use of their time; 67.24% stated they stored information; 63.79% stated they gave the most rapid and accurate

information; 48.28% said they made better use of their expertise; and 27.59% stated that they were partners in educational studies and games. 1.b When the student users of computers were asked about why they were using computers (Table 7), 81.03% of the students responded that it was necessary; 58.62% said it was beneficial; 24.14% said it was fun; and 20.69% said it was interesting. And again, for the question about how useful they thought computers were (Table 12), 53.45% stated very much and the percentage decreased to zero. 2.a In response to the same question, 84.21% of the teacher non-users agreed that computers saved time (Table 14), 78.95% stated they gave the opportunity of making better use of work; 73.68% said computers were used to store information; and 42.11% stated that they were partners in the computational studies and games. 2.b In response to the question about why they used computers (Table 18), 94.74% said that computers were necessary; 52.63% stated the use of computers was beneficial; 42.11% said that the use of computers was interesting and fun. As seen from their responses, all exhibit a similar trend in their attitudes.

In response to the question about the areas in which they wanted to use computers: 1.a 62.07% of the non-user students showed their desire to use them in keeping records (Table 4); 53.45% said in learning foreign languages; and 13.79% stated in computational games. 1.b When the users were asked about the areas in which they used computers (Table 8), 48.28% checked in learning other subjects; 39.66% said in computational games; and only 3.45% stated in learning foreign languages. This statement shows us that although the non-users wanted to use computers in language learning, they could not actually do this. 2.a The non-user teachers gave responses similar to the ones given by the non-user students (Table 15). 68.42% said to use in keeping records; 52.63% in learning foreign languages and teaching foreign languages; 21.05% stated to use in other courses or fields; and only 10.53% stated that they used in computer games. 2.b 63.16% said that they were using it in keeping records; 57.89% stated various ways of use; contrary to the desire of non-users, 10.53% stated that they used computers in teaching foreign languages and 5.26% in learning languages. (Table 19, Q.3)

1.a When asked about how much training non-users needed, 34.48% indicated the nearest level to the highest degree; 32.76% indicated the highest level; and only 1.72% indicated the lowest level (Table 5, question 23). 1.b When the users of computers were asked about the necessity of training (Table 11, Q. 60), 98.28% agreed that training was necessary and only one student disagreed about it. 2.a For the same question (Table 16, Q.23), 52.63% of teacher non-users indicated the highest degree; 26.32% stated the medium degree; none of the students indicated the least degree. 2.b While 94.74% of the teacher users agreed upon the necessity of training, only one teacher disagreed (Table 22, Q.60).

In response to the question about how much computer training was required of foreign language teachers, 1.a 39.66% of the student non-users indicated the nearest level to the highest degree (Table 5, Q.27); 25.86% indicated the medium; 24.14% indicated the highest; and 3.45% indicated the least amount of training. 1.b When the similar question directed to the users (Table 11, Q.61), 44.83% of the students said that language teachers should have been trained. 2.a When this question



directed to the teacher non-users (Table 16, Q.27), 47.37% indicated a medium degree; 26.32% indicated a higher degree; and while 5.26% indicated the highest degree of training, there was no one indicating the least amount of degree. 2.b 47.37% of the user teachers thought that training was necessary for language teachers (table 22, Q.61).

1.a When student non-users were asked about how much they wanted to use computers ( Table 5, Q.21), 65.52% indicated the highest amount. The rate of frequency decreased regularly to the least amount. 1.b When users were inquired about how much they enjoyed working on computers ( Table 12. Q.65 ), the rate of frequency followed the similar pattern just for the non-users' and 32.76% indicated the highest level and with the gradual decreases through the other levels, 1.72% indicated the least level of response. 2.a When the percentages of the responses for the non-user teachers were examined (table16, Q.21), it was found that 47.37% of teachers are willing to use computers at the highest or higher levels. Only one teacher stated a medium desire to use computers and there was no one showing the least or less desire to use computers. 2.b 47.37% of the user teachers,

that was the highest frequency, showed the highest level of desire to use computers (Table 23. Q.65), and 26.32% showed a medium level.

When asked about the influence of computers on education in the following decade: 1.a 44.84% of non-users stated that it would have a high influence on education (Table 5, Q.26), and 31.03% of indicated that it would have a great impact; 12.07% students indicated a medium rate of influence; 5.17% and 6.90% predicted less and the least influences respectively. 1.b 31.03% of the student users of computers predicted a high influence (Table 12, Q.72); 27.59% foresaw a medium influence while 17.24% expected the highest and 5.17% the least influences. When this question was directed to the teachers, 2.a (Table 16, Q.26) 42.11% of the teacher non-users estimated a high amount of influence; 26.32% a medium influence; 21.05% the highest and 21.05% less influences. No one predicted the least amount of influence. 2.b 36.84% of the users predicted that computers would affect education much; 10.53% predicted the highest, another 10.53% the least amount of influences; on the other hand 21.05% estimated an average amount of influence (Table 23, Q72).

When the users were asked "Do you think computers will replace teachers in time?", 20.69% of the students (Table 11, Q.63) and 10.53% of the teachers (Table 22, Q.63) answered "Yes".

When the users' opinions were asked about whether home-based learning would be an alternative to school-based learning, 32.76% of the students (Table 11, Q.64) and 15.79% of the teachers (Table 22, Q.64) answered "Yes".

### 3.2.2 The analysis of interviews

Since administrators are decision makers, they play an important role in the application of CALL in the universities. For the present study, five administrators were interviewed to ascertain their opinions and attitudes toward the applications of CALL. Some of the questions they were asked and the responses they gave to these questions are examined below.

When their opinions were asked about the usefulness of CALL in universities, all the people interviewed agreed that CALL could be useful in the universities if it was devised, organized, and executed properly according to the needs and expectations of the

educational system.

In response to the question about what could be done to prepare the teachers and administrators for the use of computers in language teaching and learning, the administrators put forward some ideas. Generally speaking, they could be summarized as:

- \* The current educational system should be examined thoroughly and its lacks and deficiencies should be identified.
- \* Training of the teachers and administrators might be considered not only technically but psychologically as well.
- \* It should be clarified to the administrators and teachers that there is no reason to fear computers and that they could be used beneficially in education.
- \* Some undergraduate courses should be integrated in the teacher training programs.
- \* Inservice training programs and seminars should be held.

When asked their views about the adults' behaviors towards CAI, the administrators stated that negative attitudes towards CAI stemmed from the wrong approach to the use of computers in education and from being unfamiliar with the computers.

When asked what kinds of changes had been expected in education through the wider use of computers, most of the administrators pointed out that it was too early to talk about the specific changes but some assumptions could be listed. The assumptions were: the use of computers in education would accelerate the managerial and educational works and would make them more dependable; it would be more systematic, controlled, and flexible; It would increase the quality of education; some curricular changes might be necessary.

When asked about whether each software package should be accompanied with appropriate textbooks, all the administrators except one agreed that it should.

In response to the question about whether home-based learning through computers could be an alternative to school-based learning, two administrators stated that it could be a supplement rather than an alternative. Another administrator stated that it depended on the level of education in the society and the background of consciousness of the individuals. If adult education was realized by means of open universities, it might be carried

out at homes by the aid of computers. On the other hand one administrator stated that home-based learning might be realized exclusively by either some very intelligent or disabled individuals but the general education would need the school atmosphere. Another administrator totally rejected home-based learning.

When asked whether computers could replace teachers in the future, four of the administrators stated that it was impossible and they added that even if the task of the teachers might become different such as a counselor, evaluator, and facilitator, the active role of teachers would remain the same. One of the administrators pointed out that it depended entirely on the quality of programming and stated that some courses could be taught, either fully or in part by computers alone.

## CHAPTER FOUR

### 4. CONCLUSION AND RECOMMENDATIONS

From the analysis of the findings obtained from questionnaires and interviews several conclusions may be drawn. Since the aim is to identify the attitudes of the university students, teachers and administrators towards the use of computers in education, the most important conclusions related to the attitudes may be cited as following, first for students and teachers as non-users and users of computers, and then for the administrators. After the identification of attitudes some recommendations are given.

#### 4.1 CONCLUSIONS

##### 4.1.1 The attitudes of teacher and student non-users and users

One significant point is that while no one of the student non-users opposes the use of computers in education, the teacher non-users are not as enthusiastic as the students are although all of them find computers interesting and most of them believe in the necessity of computers. When the findings are examined it may be seen easily that almost all of the student and teacher

users believe in the necessity and benefits of the use of computers in education.

Most of the teacher and student non-users cite that they can not find time to learn the use of computers as the reason to why they don't use computers. In other words it may be said that most of the non-users do not resist the use of computers in education and if they have time they are willing to use them.

Another surprising point is that a great number of students and teachers as users and non-users do not approve the use of computers in games. A conclusion can be produced from this finding that most of the respondents have been considering the computer assisted instruction seriously and have not wanted to spend their time in vain.

While more than half of the student and teacher non-users prefer to use computers in language learning and teaching, only a small number of users have been using computers in those areas. It can be thought that this situation may stem from the inconvenient circumstances as the lack of convenient place,



time, and machine or lack of training on this field. As a matter of fact almost all of the users point out the necessity of training in computerized education while approximately half of the student and teacher non-users feel the necessity for it.

Although all the groups agree that computers will influence the future education, the non-users are more optimistic in respect of the users. About home-based learning the non-users are more hopeful than the users. In other words it may be said about the questions related to the future assumptions that the non-users are more optimistic and hopeful than the users, and students are more hopeful than the teachers. It may be said again that users, being aware of the facts, are more careful about the decisions related to the future than the non-users, and teachers are more conservative and do not want to take risks making speculations about the future events.

In response to the question about whether computers will replace teachers in time -although the rate of percentage of the non-users is higher than the users- the general rate of respondents is considerably small. That means that most of the

groups believe in the necessity of the teachers in the classrooms, just as this idea is supported by specialists mentioned in the literature review.

But generally speaking, the findings show that the most frequent responses are in favor of CAI and CALL. A great amount of respondents as users and non-users and as students and teachers approve the use of computers in education, believe in its benefits and show desire to use computers or state enjoyment of using them.

#### 4.1.2 The attitudes of administrators

From the results of interview analysis it is concluded that the administrators are favorable to CALL. However they think there are some pre-requisites before CALL may be implemented. These include some preliminary studies such as a thorough exploration of CAI, examining the computerized education in the communities which have applied computer assisted instruction and have some guiding results, identification of the needs and expectations concerning CAI, and a rational planning and organization.

All the administrators agree that through computers, education would become more systematic, controlled, and flexible. Computers could be used as a supplement to the main course offerings, and even if the role of the teacher changes, teachers would be needed as they are now.

#### 4.2 RECOMMENDATIONS

Based on the findings, it is recommended that efforts should be made to nurture the existing enthusiasm of the non-users and to enhance users' enthusiasm by executing some well planned processes which will facilitate and improve learning phenomena.

It is assumed and expected that if current trends continue, departments and classrooms may often be equipped with computers even before faculties and students are ready to use them. Adequate emphasis placed on pre-service and in-service teacher training processes, may be expected to contribute to the effective utilization of computers once they become available in the universities. Teachers may be sent to some other educational centers to be trained or they may be trained under the supervision of some qualified individuals in

their own educational settings. The teachers should be come familiar with CAI. They could be provided with resources such as seminars, panels; reading centers containing journals, periodicals, magazines, and books related to CAI. Interchanges and close contacts among universities or individuals working on this area need to be encouraged. The teachers as individuals should be encouraged to own computers at their own expense, if necessary, or preferably, if budgets allow, provided by the universities at which they work.

In the light of the knowledge obtained from the literature review it is recommended that to benefit from CAI, beside teacher training processes, the emphasis should be placed on courseware development and evaluation and hardware selection processes. Educators, pedagogues, and computer experts in Turkey should work cooperatively to develop or select good quality of software and to determine the type of hardware that will respond to the learners' needs and make possible improvement in language teaching and learning.

Although opinions concerning the use of computerized games are

mixed and although many games may fail to be productive, the literature review reported on instances of the successful use of educationally oriented computer games. The very structuring of the use of computer in CAI or CALL involves such notions as using the computer as a tool, tutee, and tutor. While some applications may be game-like some others may seem highly formal and technical. The game-like applications of the subjects on computers may be helpful to improve students' motivation and accomplishment in the courses. They are the kind of things which seem to engage the minds of students. There is not only a need to continue their development but there is also need for research on how such games engage the human mind, how they lead to productive thought and what role they should properly play in the teaching-learning process.

In general, it may be said that the effectiveness of CAI in an educational setting is due to: an on-going effective staff development program through which the teachers will be able to get profit from the innovative uses of computers in language teaching; an available software development and evaluation program which will provide teachers and students with the

appropriate courseware to take the utmost advantages; and a hardware selection process which will respond to the needs of the teachers in designing and application of the courseware and will enable students to work easily on them.

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## APPENDIX A

### 1 SAMPLES OF QUESTIONNAIRES USED FOR NON-USERS AND USERS

#### 1.1 QUESTIONNAIRE A (For non-users)

I. Please fill in the following information:

Name: .....  
Class: .....  
Department: .....  
University: .....  
Position: .....  
Sex: .....  
Date: .....

II. If you don't use computers, please tick (✓) the appropriate answers for each questions below:

[1] Why don't you use computers?

- (1) Because I don't like to use.
- (2) " It is not interesting.
- (3) " I don't need to.
- (4) " It is difficult to use.
- (5) " I don't find time to learn.
- (6) " It is too expensive.
- (7) Others. (Please list.)

[2] What kind of benefits do you have by using computers?

- (8) It allows you to make better use of your time
- (9) It allows you to make better use of your expertise.
- (10) It gives the most rapid and accurate information.
- (11) It is used to store information. ....
- (12) It takes information at a distance.
- (13) It is a partner in the educational games and studies.
- (14) Others. (Please specify.)

[3] In which areas do you want to use computers?

- (15) In foreign language learning.

- (16) In foreing language teaching.
- (17) In keeping records.
- (18) In computer games.
- (19) In other subjects.
- (20) Others. (Please specify.)

[4] Circle the appropriate number:

	<u>Lowest</u>			<u>Highest</u>	
(21) How much would you enjoy studying on computers?	1	2	3	4	5
(22) How much need do you feel to use computers?	1	2	3	4	5
(23) How much training do you think you would need to use computers?	1	2	3	4	5
(24) How useful do you think Cs. are in learning a foreign language?	1	2	3	4	5
(25) How much intelligence is necessary to use computers?	1	2	3	4	5
(26) To what extend will the Cs. affect FL learning in the next decade?	1	2	3	4	5
(27) How much computer training do you think is necessary for FL teachers?	1	2	3	4	5

## I. Complete the following information please:

name:

Class:

Department:

University:

Position:

Sex:

Date:

## II. Please tick (✓) the appropriate response for the question below:

(28) 1. Do you use computers?

No, not at all.

Yes, a little.

Yes, quite a lot.

## III. If you use computer, please respond the questions below.

(More than one variable may be selected.)

1. Why do you use computers?

(29) 1. Because they are useful.

(30) 2. " it is fun.

(31) 3. " it is interesting.

(32) 4. " essential.

(33) 5. Others. (Please specify)

2. In which areas do you use computers?

(34) 1. In language teaching.

(35) 2. " language learning.

(36) 3. " teaching other subjects.

(37) 4. " learning other subjects.

(38) 5. " keeping records.

(39) 6. " computer games.

(40) 7. Others. (Please, specify)

3. Where do you use a computer?

(41) 1. At home. ....

(42) 2. At school in my office.

(43) 3. At school in the department.

- (44) 4. At school in the computer lab. ....  
 (45) 5. Others. (Specify)

4. If you use computers in language learning/teaching:

a) How do you consider your use of computer?

- (46) 1. As a supplement related to any course.  
 (47) 2. " " major complement of syllabus.  
 (48) 3. " " educational material for fun.  
 (49) 4. Others.

b) How do you use them?

As a tutor:

- (50) 1. for drill and practice.  
 (51) 2. for simulations. ....  
 (52) 3. others.

As a tool:

- (53) 1. like a typewriter.  
 (54) 2. " " memory bank.  
 (55) 3. " " calculator.  
 (56) 4. " " dictionary. ....  
 (57) 5. others.

As a tutee:

- (58) 1. to make programs.  
 (59) 2. others.

IV. Respond the questions below ticking yes or no answers.

Yes / No

- (60) 1. Do you think that you need more training  
 in order to use computers more beneficially?  
 (61) 2. Do you think that it will be necessary for  
 all the foreign language teachers to be  
 trained in the use of computers?  
 (62) 3. Do you think the software you use is  
 adequate for learning/teaching English?  
 (63) 4. Do you think that computers can replace  
 teachers in time?

- (64) 5. Do you think computers will make  
home-based study a practical alternative  
to school-based learning?

V. On the right you see the numbers sequencing from the lowest to  
the highest degree. According to each question circle one number  
that applies to you.

	<u>lowest</u> <u>highest</u>				
(65) 1. How much do you like to use computers?	1	2	3	4	5
(66) 2. How much training do you need?	1	2	3	4	5
(67) 3. How useful do you think computers are?	1	2	3	4	5
(68) 4. How tiring is to work on a computer?	1	2	3	4	5
(69) 5. How much time you spent working on computers?	1	2	3	4	5
(70) 6. How effective computers are in learning a foreign language?	1	2	3	4	5
(71) 7. How much intelligence is necessary to use computers?	1	2	3	4	5
(72) 8. To what extent will the computers affect foreign language learning in the following decade?	1	2	3	4	5

## APPENDIX B

### B.1 EXAMPLES OF PRINTOUT OF FREQUENCY DISTRIBUTIONS

#### B.1.1 For students

##### ----- FREQUENCY DISTRIBUTIONS -----

HEADER DATA FOR: A: ÖZMEN1 LABEL: STUDENTS (users/non-users)  
NUMBER OF CASES: 58      NUMBER OF VARIABLES: 72

VARIABLE: 4 Q: 4

=CLASS LIMITS=	FREQUENCY	PERCENT	.... CUMULATIVE ....	FREQUENCY	PERCENT
.00 < 1.00	51	87.93		51	87.93
1.00 < 2.00	7	12.07		58	100.00
	TOTAL 58	100.00			

=CLASS LIMITS=	FREQUENCY	.....
.00 < 1.00	51	: =====
1.00 < 2.00	7	: ===

##### ----- FREQUENCY DISTRIBUTIONS -----

HEADER DATA FOR: A: ÖZMEN 1 LABEL: STUDENTS (users/non-users)  
NUMBER OF CASES: 58      NUMBER OF VARIABLES: 72

VARIABLE: 5 Q: 5

=CLASS LIMITS=	FREQUENCY	PERCENT	.... CUMULATIVE ....	FREQUENCY	PERCENT
.00 < 1.00	14	24.14		14	24.14
1.00 < 2.00	44	75.86		58	100.00
	TOTAL 58	100.00			

=CLASS LIMITS=	FREQUENCY	.....
.00 < 1.00	14	: =====
1.00 < 2.00	44	: =====

# B.1.2 For teachers

## ----- FREQUENCY DISTRIBUTIONS -----

HEADER DATA FOR: A: ÖZMEN LABEL:TEACHERS (users/non-users)  
NUMBER OF CASES: 19 NUMBER OF VARIABLES: 72

VARIABLE: 4 Q. 4

			....CUMULATIVE....	
=CLASS LIMITS=	FREQUENCY	PERCENT	FREQUENCY	PERCENT
.00 < 1.00	16	84.21	16	84.21
1.00 < 2.00	3	15.79	19	100.00
TOTAL	19	100.00		

=CLASS LIMITS=	FREQUENCY .....
.00 < 1.00	16: =====
1.00 < 2.00	3: =====

## ----- FREQUENCY DISTRIBUTIONS -----

HEADER DATA FOR: A: ÖZMEN LABEL: TEACHERS (users/non-users)  
NUMBER OF CASES: 19 NUMBER OF VARIABLES: 72

VARIABLE: 5 Q. 5

			....CUMULATIVE....	
=CLASS LIMITS=	FREQUENCY	PERCENT	FREQUENCY	PERCENT
.00 < 1.00	6	31.58	6	31.58
1.00 < 2.00	13	68.42	19	100.00
TOTAL	19	100.00		

=CLASS LIMITS=	FREQUENCY .....
.00 < 1.00	6: =====
1.00 < 2.00	13: =====



## APPENDIX C

### C.1 TABLES OF THE FREQUENCY DISTRIBUTIONS OF THE RESPONSES IN THE QUESTIONNAIRES

#### C.1.1 PRESENTATION OF TABLES FOR STUDENTS

##### C.1.1 (a) non-users of computers

Table 2. Numbers and percentages of the students selecting specified reasons for non-use:

Question 1. Why don't you use computers? ( N = 58 )			
<u>Statement</u>		<u>number of</u>	
<u>number</u>	<u>reason</u>	<u>students</u>	<u>percentage</u>
(1)	1. I don't like them.	-	-
(2)	2. I don't find them interesting.	1	1.72
(3)	3. I don't need them.	1	1.72
(4)	4. It is difficult to learn.	7	12.07
(5)	5. I could'n have enough time to learn.	44	75.86
(6)	6. They are expensive.	20	34.48
(7)	7. Others	9	15.52

Table 3. Numbers and percentages of the respondents

Question. 2: What are the benefits of using computer? ( N=58 )			
<u>number of</u> <u>statements</u>	<u>reason</u>	<u>number of</u> <u>students</u>	<u>percentage</u>
(8) 1.	You make better use of your time.	41	70.69
(9) 2.	You make better use of your expertise.	28	48.28
(10) 3.	It gives the most accurate and accelerated information.	37	63.79
(11) 4.	It stores information.	39	67.24
(12) 5.	It takes information at a distance.	17	29.31
(13) 6.	It is a partner in the educational studies and games.	16	27.59
(14) 7.	Others.	2	3.45

Table 4. Numbers and percentages of the respondents.

Question. 3: In which areas do you want to use computers? (N=58)			
<u>Statement</u> <u>number</u>	<u>reason</u>	<u>number of</u> <u>students</u>	<u>Percentage</u>
(15) 1.	In learning foreign languages.	31	53.45
(16) 2.	In teaching " "	15	25.86
(17) 3.	In keeping record	36	62.07
(18) 4.	In computational games.	8	13.79
(19) 5.	In other courses	17	29.31
(20) 6.	Others.	11	18.97

Table 5. The number of students ( f ) and percentages ( % ) of non-user students selecting designated points on Likert-type items. ( N=58 )

Statement numbers	Questions	lowest level response			highest level response	
		1	2	3	4	5
(21)	1. How much do you want to use computers?	(f) ( - ) (%) -	( 1 ) 1.72	( 8 ) 13.79	( 10 ) 17.24	( 38 ) 65.52
(22)	2. How much do you think you need computers?	(f) ( 1 ) (%) 1.72	( 3 ) 5.17	( 25 ) 43.10	( 21 ) 36.21	( 8 ) 13.79
(23)	3. How much training do you think you need?	(f) ( 1 ) (%) 1.72	( 5 ) 8.62	( 13 ) 22.41	( 20 ) 34.48	( 19 ) 32.76
(24)	4. How useful Computers are in learning foreign languages?	(f) ( 2 ) (%) 3.45	( 6 ) 10.34	( 10 ) 17.24	( 20 ) 34.48	( 19 ) 32.76
(25)	5. How much intelligence is necessary to use computers?	(f) ( 2 ) (%) 3.45	( 9 ) 15.52	( 24 ) 41.38	( 16 ) 27.59	( 7 ) 12.07
(26)	6. To what extend will computers affect FLL in the next decade?	(f) ( 4 ) (%) 6.90	( 3 ) 5.17	( 7 ) 12.07	( 18 ) 31.03	( 26 ) 44.84
(27)	7. How much C. training is required for FL teachers?	(f) ( 2 ) (%) 3.45	( 4 ) 6.90	( 15 ) 25.86	( 23 ) 39.66	( 14 ) 24.14

C.1.1.b Users of computers

Table 6. Numbers and percentages of the user students selecting the specified items.

( 28 ) Question 1. Do you use computers? ( N=58 )		
	<u>Frequency</u>	<u>Percentages</u>
1. No, I dodn't.	3	5.17
2. Yes, a little.	38	65.52
3. Yes, a lot.	17	29.31

Table 7. Numbers and percentages of the user students selecting the specified reasons.

Question 2: Why are you using computers? ( N=58 )		
	<u>Frequency</u>	<u>Percentages</u>
(29) 1. Because it is beneficial.	34	58.62
(30) 2. " " fun.	14	24.14
(31) 3. " " interesting.	12	20.69
(32) 4. " " necessary.	47	81.03

Table 8. Numbers and percentages of the students selecting the items.

Question 2: In which areas do you use computers? ( N.58 )			
<u>Number of situations</u>	<u>Reason</u>	<u>Frequency</u>	<u>Percentage</u>
(34) 1.	In teaching foreign language.	6	10.34
(35) 2.	In learning " "	2	3.45
(36) 2.	In teaching other subjects.	9	15.52
(37) 3.	In learning other subjects.	28	48.28
(38) 4.	In keeping records.	20	34.48
(39) 5.	In computational games.	23	39.66
(40) 6.	Others.	12	20.69

Table 9. Numbers and percentages of the user students selecting the items.

Question 3: Where do you use computers? ( N=58 )			
<u>Number of Situation</u>	<u>Reason</u>	<u>Frequency</u>	<u>Percentage</u>
(41) 1.	At home	18	31.03
(42) 2.	At school in my office.	-	-
(43) 3.	At school in the department.	15	25.86
(44) 4.	At school in the computer lab.	32	55.17
(44) 5.	Others.	8	13.79

Table 10. Numbers and percentages of computer using students selecting the specified situations.

Question 4: If you use computers in language learning: ( N=58 )  
a) How do you use it?

	<u>Frequency</u>	<u>Percentage</u>
(46) 1. As a supplementary to the course.	16	27.59
(47) 2. As a part of the curriculum.	3	5.17
(48) 3. At computer games serving the purpose of language learning.	10	17.24
(49) 4. Others	4	6.90

b) In what ways do you use it?

Computer serves you as a teacher:

(50) 1. In research and application.	3	5.17
(51) 2. In imitation and animation.	1	1.72
(52) 3. Others.	-	-

Computer serves you as a tool:

(53) 4. As a typewriter.	6	10.34
(54) 5. As a memory bank.	9	15.52
(55) 6. As a calculator	1	1.72
(56) 7. As adictionary.	6	10.34
(57) 8. Others.	-	-

Computer acts out as a learner:

(58) 9. In programming computer.	17	29.31
(59) 10. Others.	1	1.72

Table 11. Number and percents of the students selecteng Yes/No answers.

Answer the questions below ticking 'yes' or 'no'. ( N=58 )				
	YES		NO	
	( f )	( % )	( f )	( % )
(60) 1.Do you think that training is necessary to benefit more?	57	98.28	1	1.72
(61) 2.Should all the language teachers be trained?	26	44.83	28	48.28
(62) 3.Do you think that computer programs are sufficient to learn English?	35	60.34	17	29.31
(63) 4.Do you think that computers will replace teachers in time?	12	20.69	43	74.14
(64) 5.Can home-based learning be an alternative to school-based learning?	19	32.76	30	51.72

Tablo 12. The number and percents of the students selecting the ratings for items on a Likert type scale.

Question 6: Circle the appropriate number. ( N=58 )						
Statement numbers	Questions	Lowest level response		Highest level response		
		1	2	3	4	5
(65)	1.How much do you enjoy working on computer?	(f) ( 1 ) (%) 1.72	( 2 ) 3.45	( 12 ) 20.69	( 18 ) 31.03	( 19 ) 32.76
(66)	2.How much computer training do you need?	(f) ( 1 ) (%) 1.72	( 2 ) 3.45	( 9 ) 15.52	( 12 ) 20.69	( 28 ) 48.28
(67)	3.How useful do you think computers are?	(f) ( - ) (%) -	( - ) -	( 6 ) 10.34	( 15 ) 25.86	( 31 ) 53.45
(68)	4.How much tiredness do you feel when you are working oncomputers?	(f) ( 5 ) (%) 8.62	( 4 ) 6.90	( 24 ) 41.38	( 13 ) 22.41	( 6 ) 10.34
(69)	5.How much time does computer took you?	(f) ( - ) (%) ( - )	( 3 ) 5.17	( 29 ) 50.00	( 13 ) 22.41	( 7 ) 12.07
(70)	6.How effective computers are in learning a language?	(f) ( - ) (%) -	( 8 ) 13.79	( 25 ) 43.10	( 14 ) 24.14	( 5 ) 8.62
(71)	7. What is the role of intelligence in using Cs.?	(f) ( 1 ) (%) 1.72	( 4 ) 6.90	( 17 ) 29.31	( 16 ) 27.59	( 14 ) 24.14
(72)	8.To what extend will the computers affect learning FL in the next decade?	(f) ( 3 ) (%) 5.17	( 4 ) 6.90	( 16 ) 27.59	( 18 ) 31.03	( 10 ) 17.24



## C.1.2 THE PRESENTATION OF TABLES FOR TEACHERS

### C.1.2.a Non-users of computers

Table 13. Numbers and percentages of the non-user teachers selecting the reasons.

Question 1: Why don't you use computers? ( N=19)		
<u>Reasons</u>	<u>Frequency</u>	<u>Percentage</u>
(1) 1. I don't like to use.	10	52.63
(2) 2. It is not interesting.	-	-
(3) 3. I don't need to.	2	10.53
(4) 4. It is difficult to learn.	3	15.79
(5) 5. I don't find time to learn.	13	68.42
(6) 6. It is rather expensive.	9	47.37
(7) 7. Others.	4	21.05

Table 14. Numbers and percents of the teachers selecting the specified reasons. ( N=19 )

Question 2: What are the benefits of using computers?		
<u>Reasons</u>	<u>Frequency</u>	<u>Percent</u>
(8) 1. It saves the time.	16	84.21
(9) 2. You make better use of work.	15	78.95
(10) 3. It gives more rapid and accurate information	8	42.11
(11) 4. It is used to store information.	14	73.68
(12) 5. It takes information at distance.	9	47.37
(13) 6. It is a partner at the educational studies and games.	8	42.11
(14) 7.Others.	-	-

Table 15. Numbers and percentages of teachers selecting given reasons. ( N=19 )

Question 3: In which areas do you want to use computers?		
<u>Reasons</u>	<u>Frequency</u>	<u>Percents</u>
(15) 1. In learning foreign languages.	10	52.63
(16) 2. In teaching foreign languages.	10	52.63
(17) 3. In keeping records.	13	68.42
(18) 4. In computer games.	2	10.53
(19) 5. In other courses.	4	21.05
(20) 6. Others.	4	21.05

Table 16: The numbers and percentages of teachers responding the questions on the Likert-type scale. ( N=19 )

Circle the appropriate number for each question below.						
Questions		Lowest level response			Highest level response	
		1	2	3	4	5
(21) 1. How much do you want to use computers?	(f) (%)	( - ) -	( - ) -	( 1 ) 5.26	( 9 ) 47.37	( 9 ) 47.37
(22) 2. How much do you need to use computers?	(f) (%)	( 2 ) 10.53	( 3 ) 15.79	( 7 ) 36.84	( 6 ) 31.58	( 1 ) 5.26
(23) 3. How much training do you think you need?	(f) (%)	( - ) -	( 3 ) 15.79	( 5 ) 26.32	( 1 ) 5.26	( 10 ) 52.63
(24) 4. How beneficial do you think computers are in learning a foreign L.?	(f) (%)	( - ) -	( 4 ) 21.05	( 7 ) 36.84	( 7 ) 36.84	( 1 ) 5.26
(25) 5. How much intelligence is necessary to use Cs.?	(f) (%)	( 2 ) 10.53	( - ) -	( 7 ) 36.84	( 9 ) 47.37	( 1 ) 5.26
(26) 6. To what extend will the computers affect FL learning in the next decade?	(f) (%)	( - ) -	( 2 ) 10.53	( 5 ) 26.32	( 8 ) 42.11	( 4 ) 21.05
(27) 7. How much C. training is necessary for FL teachers?	(f) (%)	( - ) -	( 4 ) 21.05	( 9 ) 47.37	( 5 ) 26.3	( 1 ) 5.26

C.1.2.b Users of computers

Table 17: The numbers and percents of the teachers selecting the specified reasons. ( N=19 )

(28) Question 1: Do you use computers?		
<u>Answers</u>	<u>Frequency</u>	<u>Percents</u>
1. No, I don't.	( 1 )	5.26
2. Yes, a little.	( 6 )	31.58
3. Yes, a lot.	( 12 )	63.16

Table 18. Numbers and percents of the teachers selecting the reasons. ( N=19 )

Question 2: Why do you use computers?		
<u>Reasons</u>	<u>Frequency</u>	<u>Percents</u>
(29) 1. It is beneficial.	( 10 )	52.63
(30) 2. It is fun.	( 8 )	42.11
(31) 3. It is interesting.	( 8 )	42.11
(32) 4. It is necessary.	( 18 )	94.74
(33) 5. Others.	( 4 )	21.05

Table 19. Numbers and percentages of the teachers selecting the variables. ( N=19 )

Question 3: In which areas do you use computers?		
Reasons	Frequency	Percentages
(34) 1. In teaching foreign languages.	( 2 )	10.53
(35) 2. In learning foreign languages.	( 1 )	5.26
(36) 3. In teaching other courses.	( 3 )	15.79
(37) 4. In learning other courses.	( 4 )	21.05
(38) 5. In keeping records.	( 12 )	63.16
(39) 6. At computational games.	( 5 )	26.32
(40) 7. Others	( 11 )	57.89

Table 20. Numbers and percentages of the teachers selecting the the specified reasons. ( N=19 )

Question 4: Where do you use computers?		
Reasons	Frequency	Percents
(41) 1. At home.	( 4 )	21.05
(42) 2. At school, in my office.	( 1 )	5.26
(43) 3. At school, in the department.	( 11 )	57.89
(44) 4. At school, in the computer lab.	( 10 )	52.63
(45) 5. Others.	( 6 )	31.58

Table 21. Numbers and percents of the teachers selecting the specific items. ( N=19 )

Question 5: If you use computers in order to teach/learn FL.		
a) How do you use it?		
Reasons	Frequency	Percents
(46) 1. Sometimes as a supplement to the courses.	( 2 )	10.53
(47) 2. As a part of the curriculum.	( 1 )	5.26
(48) 3. At the computational games related to the courses	( 2 )	10.53
(49) 4. Others	( 4 )	21.05
b) In what ways do you use it?		
It serves as a teacher:		
(50) 1. In research and application.	( 1 )	5.26
(51) 2. In imitation and animation.	( - )	-
(52) 3. Others.	( - )	-
It serves as a tool:		
(53) 1. As a typewriter.	( 10 )	52.63
(54) 2. As a memory bank.	( 5 )	26.32
(55) 3. As a calculator.	( 1 )	5.26
(56) 4. As a dictionary.	( 1 )	5.26
(57) 5. Others.	( 1 )	5.26
It serves as a learner:		
(58) 1. In programming computer.	( 3 )	15.79
(59) 2. Others.	( - )	-

Table 22. Numbers and percentages of teachers selecting Yes/No answers. ( N=19 )

Question    Answer the following questions ticking 'Yes' or 'No'.		YES	
	Questions	Frequency	Percent
(60)	1. Do you think that computer training is necessary to benefit more?	( 18 )	94.74
(61)	2. Should all the foreign Language teachers be trained?	( 9 )	47.37
(62)	3. Do you think that computer programs are available for learning English?	( 10 )	52.63
(63)	4. Do you think that computers will replace teachers in time?	( 2 )	10.53
(64)	5. Do you think that home-based learning will be an alternative to school-based learning through computers?	( 3 )	15.79

Table 23. Numbers and percentages of teachers answering the questions on a Likert-type scale. ( N=19 )

Question: Circle the appropriate number below for each question.						
Questions		Lowest level response			Highest level response	
		1	2	3	4	5
(65) 1. How much do you enjoy working on computers?	(f) ( 2 ) (%) 10.53	( 1 ) 5.26	( 5 ) 26.32	( 1 ) 5.26	( 9 ) 47.37	
(66) 2. How much computer training do you need?	(f) ( - ) (%) -	( 2 ) 10.53	( 7 ) 36.84	( 7 ) 36.84	( 2 ) 10.53	
(67) 3. How beneficial do you think computers are?	(f) ( - ) (%) -	( 1 ) 5.26	( 1 ) 5.26	( 2 ) 10.53	( 14 ) 73.68	
(68) 4. How much tiredness do you feel working on C.?	(f) ( 1 ) (%) 5.26	( 2 ) 10.58	( 5 ) 26.32	( 5 ) 26.32	( 5 ) 26.32	
(69) 5. How much time do you spend working on C.?	(f) ( 1 ) (%) 5.26	( 1 ) 5.26	( 6 ) 31.58	( 5 ) 26.32	( 5 ) 26.32	
(70) 6. How effective are computers in learning a foreign language?	(f) ( 2 ) (%) 10.53	( 4 ) 21.05	( 6 ) 31.58	( 5 ) 26.32	( 1 ) 5.26	
(71) 7. What is the role of intelligence in the use of computers?	(f) ( 2 ) (%) 10.53	( - ) -	( 3 ) 15.79	( 8 ) 42.11	( 4 ) 21.05	
(72) 8. To what extent do you think computers will affect education in the next decade?	(f) ( 2 ) (%) 10.53	( 3 ) 15.79	( 4 ) 21.05	( 7 ) 36.84	( 2 ) 10.53	



## **APPENDIX D**

### **D.1 THE PRESENTATION OF QUESTIONS ASKED IN THE INTERVIEWS**

1. Do you think that Call is or can be useful in the interviews?
2. What can be done to prepare the teachers and administrators for the use of computers in language teaching?
3. Although children seem to have generally a positive sense about the use of computers in education, many teachers and educators still seem to reject CALL. Do you agree with such teachers?
4. What kind of changes do you think the wider use of computers will bring to our educational system?
5. Do you think that education will become more controlled and systematic through the use of computers?
6. Do you think that using computers home-based learning will be an alternative to school-based learning?
7. Do you think computers can replace teachers in the future?
8. What difficulties may be cited for initiating the computer assisted language learning?
9. How may CAI influence the curriculum?
10. Do you experience any pressure coming from the school district to begin the computerized education?
11. How much do you enjoy to study with computers?
12. Is there a textbook for any of your course which is coordinated with a computer program?

13. Do you think that each software package should be accompanied with appropriate textbooks?
14. Are you involved in any way developing programs for CALL?

## **ABBREVIATIONS**

CAI	Computer Assisted Instruction
CALL	Computer Assisted Language Learning
C	Computer
FL	Foreign Language
N	Number
Q	Question

## **RESUME**

After graduating from English Literature and Language Department of Atatürk University, I began to work in Fırat University as a lecturer of English language. I have been working there continuously for nineteen years offering service English and ESP courses generally to classes of engineering and social sciences. In the summer of 1989, I attended the British Council Summer Schools Program in Leeds. In 1989-90 academic year I attended the MA in TEFL at Bilkent University.